Leek Urban District Council.

JOINT REPORT

OF THE

Medical Officer of Health

AND

Sanitary Inspector

ON THE

Sanitary Condition of Leek,

For the Year ending 1905.

Digitized by the Internet Archive
in 2017 with funding from
Wellcome Library

https://archive.org/details/b29957102

TO THE LEEK URBAN DISTRICT COUNCIL.

Mr. Chairman and Gentlemen,

In submitting my report for the year 1905, I must again point out that as these reports are framed according to the requirements of the Local Government Board and County Council, there is necessarily a large amount of repetition of previous reports, as a statement of the local circumstances and a history of local sanitary questions, which may seem superfluous to you, may frequently be of the utmost importance to them.

General Local Features.

The Leek Urban Sanitary District covers an area of 1460 acres, and in the highest portion of what is a hilly district, attains an elevation of about 600 feet above sea level; the natural drainage is into the river Churnet.

A line drawn across the middle of the district, due north and south, marks fairly accurately its geological division; on the east of this line is a sub-soil of clay, on the west one consisting of red sandstone.

Investigations have been made with the view of ascertaining what influence this difference of sub-soil has on the health of the inhabitants, both in respect to the general mortality, and more particularly as to its influence on the mortality from Phthisis, with the somewhat

unexpected result that no appreciable difference could be demonstrated.

Further comparative investigations relating to other diseases would be interesting and instructive.

The population is mainly composed of artisans, the chief trade being silk manufacture and silk dyeing.

House Accommodation.

The house accommodation is fairly good, both as regards its adequacy, and fitness for habitation. Two cases of overcrowding have been investigated and reported on, and after notices had been served, the condition was brought within legal limits, prosecution being rendered unnecessary.

I fear there are many cases best described as borderland cases, which I should heartily rejoice to get rid of, but the dearth of houses having good-sized rooms at a low rent makes it impossible, for wages are always comparatively low in many branches of silk manufacture, and especially low now that the trade is bad and many workers are making short time.

The injurious effects in these borderland cases would be largely counteracted if the people would learn to open the windows more freely and to unstop the chimneys which are stuffed with bags of shavings, etc., or blocked by boards which are frequently papered over to look clean and pretty. These conditions, which plainly mean want of fresh air and accumulation of bad air in the bedrooms, have an important bearing on our infant mortality, for infants are most susceptible to the poisonous atmosphere,

and either die in the early months, or surviving these grow up poor miserable undersized weaklings.

A sufficiency of open space about the houses is much more apparent in the more recently erected buildings, and their surroundings are clean. There are only fourteen back-to-back houses in the whole district, ten of these have two large bedrooms with good windows, and are provided with a separate water-closet each.

Supervision is constantly exercised over the erection of new houses.

Sewerage and Drainage.

Under this heading I am compelled to repeat from last year's report:—"It is again necessary to call your attention to some outlying portions of the district which require drainage improvement; the portions to which I refer are the west out-fall; also the district adjoining the Canal Wharf, which should be properly drained, and the sewage conveyed to the west side of the sewage farm."

Sewage Disposal.

The new tanks and filters are now in process of construction, and by this time next year I venture to hope I may be able to report favourably on the new scheme.

Excrement Disposal.

The system in vogue for the disposal of excrement is mainly the water-carriage system, the remaining privies

being gradually replaced by wash-down closets, either hand-flushed or furnished with flushing apparatus. During the year 83 privies have been converted into water-closets.

Removal and Disposal of House and Trade Refuse.

The removal of house refuse is accomplished by the public scavengers employed by the Council, who make weekly rounds to collect the contents of about 2,000 movable receptacles; otherwise where ashpits exist these are emptied on notice being sent to the Authority. During the year 78 offensive uncovered ashpits have been abolished. I am glad to see suitable covers of tarpaulin have been provided to some of the ashes carts experimentally, and hope they will speedily be adapted to every cart used for conveying refuse.

The disposal of refuse consists in its being emptied on the "tip." I have long advocated a Destructor as the most sanitary method of refuse disposal, but I am bound to admit that the "tipping" as at present carried out at the sewage farm is robbed of many of its objectionable features, inasmuch as the refuse is levelled and covered over with a good layer of earth, thus obviating the nuisance associated with the ordinary tip.

The want of a "destructor" is perhaps more keenly felt for the final disposal of "trade refuse" accumulating from butchers', fishmongers', provision dealers', greengrocers', fried fish and tripe shops; this is not collected with house refuse and leads to many cases of nuisance. Of all kinds of refuse this is surely the worst, and requires destruction by fire.

Water Supply.

The water supply is one of which we are justly proud; taking its origin in a series of deep springs in the millstone grit of the Roches, which are all carefully covered in, the water is carried directly, practically without storage, to the town. The only approach to storage consists in the use of a reservoir situated on the outskirts of the town, which receives the surplus water during the night, this is reduced by the increased demand during the day, diminishing the pressure in the mains, and allowing a flow from the reservoir through an automatic valve. The supply is sufficient, wholesome, and free from risk of serious pollution.

There is no necessity for storage in cisterns on the premises as the supply is on the "constant" system.

Lodging-houses, slaughter-houses, bake-houses, dairies, cowsheds, etc., are dealt with in detail in the Inspector's report.

Infectious Diseases and Isolation Hospital.

Infectious diseases are as far as possible dealt with at the Isolation Hospital; true isolation in the homes being well nigh an impossibility. In this connection I heartily endorse the remarks of the Inspector.

The question of hospital extension has been under the consideration of your Committee during the year, plans having been prepared about twelve months, but owing to difficulties arising as to the adaptation of heating apparatus and other minor matters, delay has followed delay. I think now all is ready for the appli-

cation to the Local Government Board, and the work, it is to be hoped, will soon be begun.

The lack of accommodation has been keenly felt practically the whole year, during which 167 cases have been under treatment, of these cases the larger proportion were Diphtheria, about one-third being Scarlatina; fortunately only five cases of Enteric Fever have been notified during the year, for such was our overcrowded condition some of these could not be admitted.

This condition of things fully bears out my contention in last year's report, where I stated:—

"In view of the fact that during the year the total number of cases in hospital has only been 39 (no serious epidemic having occurred) it is somewhat difficult for me to urge the point of increased accommodation; this difficulty, it will however be readily admitted, is more apparent than real, and because we have not experienced during the year any serious epidemic, the chances are the more strongly in favour of its coming upon us at early date, for which contingency we should do well to be fully prepared. It must be borne in mind that a small isolation hospital requires a comparatively large and expensive staff in order to meet times of extraordinary stress, though it may be empty or nearly empty for months together; and it is manifestly unfair to compare the cost per patient per week with the cost per patient in a general hospital, where the per centage of beds occupied is constantly higher, and where totally different conditions obtain throughout."

Disinfection.

Disinfection is effected by means of the dense fumes of

vaporised carbolic acid, produced by a portable apparatus designed by Mr. Farrow, more than twenty years ago, and now made by Messrs. Calvert, of Manchester. This method has been constantly used in this district since that time; it is rapid, clean, efficient, is not injurious to furniture or metal work, and in no way affects the colours of pictures, wallpapers, or delicate fabrics; all great advantages over the sulphur method.

Half-a-pound of phenol can be converted into vapour in three minutes, and is sufficient for the disinfection of a room of the capacity of 1,000 cubic feet.

I have personally proved the efficacy of this vapour by extended bacteriological experiments, and beg to call the attention of the various Authorities of the County to this simple means of disinfection: the results obtained with mattresses, bedding, etc., were not, however, satisfactory; for these articles current steam should be used.

We have a "Thresh's Emergency Disinfector," which is kept at the Isolation Hospital; it is portable, and is available for use in the proximity of any house where required. We have also a properly constructed hand-cart for the conveyance of infected bedding, etc., either to the "Disinfector" or to destruction by fire, unhappily I cannot use the word "Destructor" in its technical sense, but hope that in the near future this will be possible.

Vital Statistics.

Births.

The number of Births registered during the year was 425, which is 3 above the average for the preceding

10 years, yielding a rate of 26·3 per 1,000. This is slightly lower than the birth rate for the preceding ten years.

Deaths.

The total number of Deaths registered was 248, which is 40 less than the 10 years' average, and yields an uncorrected death rate of 15·3 per 1,000, as against 18·7 the average of ten preceding years; this low mortality rate becomes lower still when the necessary corrections have been made, coming out at 14·4 per 1,000 of the population.

Infant Mortality.

Turning to the Infant Mortality which is generally the black spot in our Vital Statistics, I am pleased to be able to report a considerable improvement, only 51 deaths having occurred in infants under the age of one year, or nearly 13 below the preceding 10 years' average (63·9); the rate per 1,000 births working out at 120 as compared with 153·2 for the previous decade.

The comparison with last year's figures is still more favourable, for during 1904 there were 71 deaths, with a rate of 168·2 per 1,000 births.

It is worthy of note that out of the 51 deaths under one year more than 50 per cent. were insured in one society in the town.

Mean Age at Death.

The mean age at death of each deceased individual shows a corresponding improvement, attaining the level of 40 years, as compared with 24·8 years for the decade

1851-60; 32 years, 1861-70; and 37·3 years for the 14 years, 1891-1904.

Ages at Death.

Under 1 year	51
Between 1 and 5 years	19
,, 5 ,, 15 ,, ...	11
,, 15 ,, 25 ,, ...	15
,, 25 ,, 65 ,, ...	75
Over 65 years	77

There was no uncertified death in the district during the year.

The 3 to 5 Age Period.

It is, in my opinion, a mistake to send children under 5 years of age to school. From 3 to 5 years is not only the period of greatest frequency of measles and whooping cough, but is also the most fatal period. At this age therefore children should not congregate at school; the law does not compel attendance, but grant is paid on the attendance, which naturally the school authorities do their best to keep up; mothers also make it convenient to get rid of the children for part of the day. Briefly, the result is an increase of "preventable" deaths; a lowered physical and mental condition of the children, and an expenditure of about a million of money a year (on this age period) out of the pockets of the taxpayers.

I strongly urge the Education Committee to exercise to the full whatever power they possess, on the side of the children.

Causes of Death.

Zymotic Class.

The Zymotic class of diseases is responsible for 14 deaths, the average for the previous ten years being 28·9; of these 2 were attributed to diarrhœa, 3 each to epidemic influenza and enteric fever, 1 to measles, and 5 to diphtheria.

In all cases of infectious disease the premises have been promptly inspected, and most careful investigation made to discover the source of infection, sanitary defects discovered being remedied forthwith.

The milk supply was free from suspicion in every instance.

Sixty-seven cases of scarlet fever, 121 cases of diphtheria, 17 cases of erysipelas, 5 cases of enteric fever, and 4 cases of measles were notified during the year, of which 51 scarlet fever, 104 diphtheria, and 2 enteric fever were removed to the Isolation Hospital, giving a total of 157 removals to hospital out of 214 cases notified, or 78·0 per cent., or more fairly, calculating the per centage on dipththeria, scarlet and enteric fever cases, the removals amount to 81·3 per cent. of notifications. This would have been larger still had we been able to accommodate all cases desiring admission.

Phthisis.

Phthisis has been responsible for 26 deaths, the average for the preceding ten years being 25·2.

Phthisis is now generally considered to be a dirt or filth disease, and I feel sure that if habits of cleanliness were more frequently practised, together with the admission of plenty of fresh air, especially through the open bedroom windows during hours of sleep, the number of cases of this terrible disease would rapidly diminish.

The "open air" treatment is simply "ventilation" treatment, and it is far easier to prevent than to cure, therefore I urge free ventilation of all rooms, and especially of bedrooms in which such a large proportion of our time is spent.

I am pleased to report that since the commencement of the house to house inspection by the Inspector no less than 249 bedrooms have been properly ventilated, provided always that people will recognise the fact that a window is made to open. There is much to be said in favour of the adoption of windows which cannot be completely closed. If free ventilation and cleanliness were more generally practised, we should have fewer and fewer cases of phthisis, and less money would be required from the rates to build and keep up Sanatoria for the treatment of consumptives. If preventive measures are ignored, Sanatoria are bound to be required, and it seems to me such a foolish policy and waste of money to begin at the wrong end of the business.

The phthisis notification post cards from the Registrar to the Sanitary Inspector have been of great service in supplying early information, enabling disinfection to be carried out in every case without delay. I am glad to add that no opposition to this procedure is encountered.

Diphtheria.

Diphtheria has been responsible for 5 deaths out of a total of 121 cases notified. This tends to indicate the generally mild character of the cases, in fact our estimate of diphtheria needs considerably modifying, for since the adoption of the bacteriological diagnosis much of our previous clinical experience has needed revision. All this means the notification of many mild cases which previously escaped recognition: undoubtedly these very mild cases are of the utmost importance, constituting as they do a great danger to the community, for a child may contract severe diphtheria from a very mild case. Hitherto a certain amount of laxity has prevailed concerning these mild cases, the sore throat has soon been well and apparently clean, and unfortunately patients have been allowed to mix with other children; in this way I feel convinced we may account for many cases, personal contact in school or at play being a far more important factor in spreading the disease than are so called sanitary defects in the houses.

The year's experience fully confirms this view of the spread of diphtheria. It has been suggested that the slates as used in the schools may be the means of spreading the infection. I find that in some of the schools in the town slates are wholly used, in some they are in partial use, and in others they are totally abolished, pencil and paper taking their place. The latter method is however by no means free from risk, as evidenced by an epidemic of diphtheria reported to have been caused at Detroit by the pencils used in a school. The *Telegraph's* correspondent explains that the School Board buys pencils for the pupils and these

are gathered up each night and distributed in the morning. One child contracted diphtheria, and in a few days the disease was communicated to fifty pupils. The State Board of Health has now ordered the pencils to be destroyed, and the system abolished.

The next requisite for every school will be a sterilizer in which all articles such as books, pencils, slates, etc., used by the children shall receive their daily purging from infectious impurities. This may sound somewhat extreme, but if infection is to be fairly tackled in its happiest hunting ground, *i.e.* the school, why hesitate to make it compulsory to erect a disinfector or sterilizer in every school premises? The lives saved would be many, and the time saved owing to infectious disease absence would be incalculable.

The sterilization of the barber's implements is increasing rapidly, should not the case of the children demand similar attention?

Local Diseases.

In the class of local diseases the mortality from diseases of the brain and nervous system was 37, the average for 10 years being 35·0; that from heart affections 32, the 10 years' average being 32·9; that from diseases of the digestive organs 29, the average for 10 years being 24·0; that from diseases of the respiratory organs 35, the 10 years' average being 46·0, and that from malignant disease 9, the 10 years' average being 11.

As these diseases are chiefly the result of mistaken and injurious habits of life, influenced very considerably by economic conditions, we do not find that improved

sanitation has much influence over them, although in other classes this agency has been most effectual, as demonstrated by the fact that within the last 45 years the rate of mortality has been reduced 30 per cent., and the duration of life increased 30 per cent., as compared with the 10 years ending 1860.

There is nothing more in this year's mortality returns requiring special comment, and I append table giving principal causes of death in 1905 :—

	Number of Deaths.	Average of preceding 10 years.	Mortality per 1,000 of population.
Influenza	3	2·1	0·18
Measles	1	9·0	0·06
Diarrhœa	2	0·9	0·12
Diphtheria and Membranous Croup	5	1·0	0·30
Enteric Fever	3	2·4	0·18
Small-pox	0	0·4	0
Whooping Cough	0	4·3	0
Total Zymotic Diseases ...	14	28·9	0·86
Phthisis	26	25·2	1·60
Bronchitis, Pleurisy, and Pneumonia	33	45·1	2·04
Heart Disease	32	32·9	1·98
Cancer...	9	11·4	0·55

Vaccination.

Through the courtesy of the Vaccination Officer, I am able to give figures relating to the last nine years' experience in this District.

	Births.	Vaccinated.	Exemptions.	Insusceptible.	Removed.	Dead.	Postponed.
1897	434	266	98	1	17	52	0
1898	433	243	139	0	9	43	0
1899	377	262	49	0	10	50	6
1900	414	218	41	1	6	39	10
1901	406	216	51	0	2	41	18
1902	426	236	27	0	9	42	25
1903	420	213	46	1	8	30	19
1904	423	211	49	1	10	43	18
1905	425	213	69	0	9	40	22

The figures in these columns apply only to those children registered during the year, a proportion of which still remain under the vaccination age.

We cannot ignore the fact that there is a gradually increasing opposition to vaccination, in spite of improved methods, vaccination performed at the home, and the use of glycerated lymph.

The number of exemptions is 13·8 per cent. of the total number of births registered, which is much too high for the safety of the community.

As far as I am able to judge vaccination is efficiently performed. It is, however, a matter of regret that the

Act does not compel the private practitioner to vaccinate in four places, as the public vaccinator is obliged to do. It would also, in my opinion, improve the efficiency of vaccination if the Government supplied lymph to all practitioners, inspected the work done, and paid the fees.

The following tables are compiled in the form required by the Local Government Board and the Staffordshire County Council.

During the year the usual inspections of the district have been made and monthly reports have been submitted to the Sanitary Committee, in which any question specially affecting the health of the town has been referred to, and when necessary, suggestions submitted indicating the steps required to achieve a better condition of affairs.

J. MOUNTFORT JOHNSON, M.D.,

Medical Officer of Health.

"TABLE I."—Vital Statistics of Whole District during 1905 and previous years.

Year.	Population estimated to middle of each Year.	Births.		Total Deaths Registered in the District.				Total Deaths in Public Institutions in the District.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	Nett Deaths at all ages belonging to the District.	
				Under 1 Year of Age.		At all Ages.						
		Number.	Rate. *	Number.	Rate per 1,000 Births registered.	Number.	Rate. *				Number.	Rate. *
1	2	3	4	5	6	7	8	9	10	11	12	13
1895	14746	447	30·3	81	181·2	295	20·0	30	13	...	282	19·1
1896	14920	408	27·3	47	115·1	257	17·2	24	9	...	248	16·8
1897	15037	418	27·7	54	129·1	289	19·2	36	16	...	273	18·1
1898	15174	437	28·7	59	135·0	267	17·5	32	9	...	258	17·0
1899	15242	376	24·6	74	196·8	323	21·1	40	16	...	307	20·1
1900	15386	414	26·9	59	142·5	280	18·2	40	20	...	260	16·9
1901	15509	406	26·1	68	167·4	294	18·9	38	18	1	277	17·8
1902	15562	422	26·9	70	165·8	298	19·0	36	14	2	286	18·2
1903	15726	420	26·6	56	133·3	277	17·6	37	15	2	264	16·7
1904	15921	422	26·5	71	168·2	302	18·9	38	19	6	289	18·1
Averages for years 1899-1904	15322	417	27·2	63·9	153·2	288	18·7	35·1	14·9	1·1	274·4	17·9
1905	16150	425	26·3	51	120·0	248	15·3	37	16	1	233	14·4

* Rates in Columns 4, 8, and 13, calculated per 1,000 of estimated population.

Note.—The deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the District or Division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

"The Public Institutions" to be taken into account for the purposes of these Tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses, and lunatic asylums.

Area of District in acres (exclusive of area covered by water) 1160; total population at all ages, 15,484; number of inhabited houses, 3,380; average number of persons per house, 4·58, at census 1901.

"The Public Institutions" in respect of the deaths, in which corrections have been made, are Leek Union Workhouse, Leek Cottage Hospital, Leek Isolation Hospital, and North Stafford Infirmary, Stoke.

"TABLE III."

Cases of Infectious Disease Notified During the Year 1905.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.						
	At all Ages.	Under 1.	1 to 5.	5 to 15	15 to 25	25 to 65	65 and upwards.
Small-pox	..	...	...	...	...	...	...
Cholera	...	...	...	...	...	...	...
Diphtheria	121	...	23	52	23	23	...
Membranous Croup ...	...	...	...	...	...	...	...
Erysipelas	17	...	...	...	1	10	6
Scarlet Fever	67	...	17	46	3	1	...
Typhus Fever... ...	...	...	...	...	...	...	...
Enteric Fever... ...	5	...	...	2	1	2	...
Relapsing Fever ...	...	...	...	...	...	...	...
Continued Fever ...	...	...	...	...	...	...	...
Puerperal Fever ...	...	...	...	...	...	...	...
Chicken Pox	...	...	...	...	...	...	...
Measles	4	...	2	2	...	...	...
Totals	214	...	42	102	28	36	6

Number of cases removed from the Leek Urban District to the Leek Isolation Hospital:—Diphtheria, 104, Scarlet Fever, 51, Enteric Fever, 2. Total 157.

"TABLE IV."

Causes of, and Ages at, Death during Year 1905 in the Leek Urban District.

Causes of Death.	Deaths in or belonging to Whole District at subjoined Ages.							Total Deaths in Public Institutions in the District
	All Ages.	Under 1 Year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	
Small-pox	...	...	...	...	...	...	...	...
Measles	1	1	...	...	...	...	...	...
Scarlet Fever... ...	...	...	...	...	...	...	...	..
Whooping-cough ...	...	...	...	...	...	...	...	...
Diphtheria and membranous Croup ...	5	...	3	2	...	...	...	5
Croup	...	...	...	...	..	..	...	...
Fever—Typhus ...	...	...	...	...	...	...	...	...
Fever—Enteric ...	3	...	...	1	1	1	...	2
Fever—Other continued	...	...	...	...	...	...	..	...
Epidemic Influenza ...	3	...	...	...	...	2	1	...
Cholera	...	..	...	...	...	...	...	...
Plague...	...	...	...	...	...	...	...	...
Diarrhœa	2	2	...	...	...	...	...	...
Enteritis	6	4	1	...	...	1	...	...
Puerperal Fever ...	...	...	...	...	...	...	...	...
Erysipelas	...	...	...	...	...	...	...	...
Other Septic Diseases	..	...	...	...	...	...	...	...
Phthisis	26	...	...	1	8	17	...	3
Other Tubercular Diseases	1	1	...	...	...	...	...	...
Cancer, Malignant Disease	9	...	...	...	...	6	3	...
Bronchitis	22	3	3	1	...	6	9	2
Pneumonia	11	...	3	...	...	5	3	1
Pleurisy	...	...	...	...	...	...	..	...
Other Diseases of Respiratory Organs	2	...	...	1	...	...	1	..
Alcoholism ... } Cirrhosis of Liver } ...	6	0	...	...	...	2	4	...
Venereal Diseases ...	1	1	...	...	...	...	...	...
Premature Birth ...	13	13	...	...	...	...	...	...
Diseases and Accidents of Parturition ...	2	...	...	...	1	1	...	1
Heart Diseases ...	35	6	...	1	..	11	17	1
Accidents	1	...	...	...	1	...	...	1
Suicides	2	...	...	...	...	2	...	...
All other causes ...	97	20	9	4	4	21	39	21
All causes... ...	248	51	19	11	15	75	77	37

"TABLE V."

Infantile Mortality during the Year 1905.

Deaths from stated Causes in Weeks and Months under One Year of Age

Cause of Death.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under 1 Year.
Common Infectious Diseases:																	
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chicken-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	...	...	...	..	...	..	...	...	...	..	...	1	...	...	...	...	1
Scarlet Fever	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria: Croup	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhœal Diseases:																	
Diarrhœa, all forms	...	...	...	...	...	...	1	...	...	...	...	1	...	...	.	..	2
Enteritis (*not Tuberculous*)	...	...	...	...	...	...	1	...	1	1	...	...	...	...	1	..	4
Gastritis, Gastro-intestinal Catarrh	...	...	...	...	...	2	1	...	...	...	...	1	...	...	...	...	4
Wasting Diseases:																	
Premature Birth	...	11	2	...	...	13	...	...	...	...	...	...	..	...	...	.	13
Congenital Defects	...	2	1	...	...	3	...	...	...	...	...	...	...	...	...	...	3
Injury at Birth	...	...	...	...	...	...	...	...	...	.	...	...	...	...	..	...	...
Want of Breast-milk	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Atrophy, Debility, Marasmus		1	...	...	1	2	...	1	...	...	...	...	...	...	..	...	3
Tuberculous Diseases:																	
Tuberculous Meningitis	...	...	...	...	...	...	...	...	...	.	...	...	...	...	...	...	...
Tuberculous Peritonitis Tabes Mesenterica	...	...	...	...	...	...	...	..	...	..	...	...	...	...	1	...	1
Other Tuberculous Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Syphilis	...	...	...	...	...	.	...	...	...	...	...	...	...	...	...	...	...
Rickets	...	...	...	...	...	...	...	...	.	...	...	...	...	...	...	...	...
Meningitis (*not Tuberculous*)	1	..	...	...	1	...	...	1	...	1	...	...	...	...	2	..	5
Convulsions	...	...	2	...	2	1	2	1	...	...	...	1	..	...	...	...	7
Bronchitis	...	...	1	...	1	...	1	1	...	...	...	...	2	...	...	...	5
Laryngitis	...	...	...	...	...	...	..	..	...	...	...	...	...	...	...	...	..
Pneumonia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Suffocation, overlaying	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Causes	...	1	1	...	...	2	.	...	...	...	...	...	...	...	...	1	3
All Causes—Certified	...	16	4	3	1	24	3	7	3	1	2	...	4	...	2	4	1	51
Uncertified	...	...	...	...	...	...	...	...	...	...	..	..	...	..	...	...	...	...

Births in the year { Legitimate 390. / Illegitimate 35.

Deaths from **all Causes at all Ages** 248.

Population. Estimated to middle of 1905.—**16,150.**

Factory and Workshops Report.

Sanitary Department,
Town Hall, Leek,
January 1st, 1906.

To His Majesty's
Secretary of State for the Home Department,
Whitehall, S.W.

Sir,

In pursuance of section 132 of the Factory and Workshops Act, 1901, I have the honour to report as follows :—

There are 161 workshops on the district register, chiefly occupied by dress and mantle makers, milliners, tailors, cardboard box makers, silk workers, joiners, cabinet makers, boot and shoe repairers, tinsmiths, locksmiths, and shoeing smiths ; in which workshops are employed 4 males under 14 years of age, 48 between 14 and 18, and 351 over the age of 18 ; 7 females under 14, 48 between 14 and 18, and 168 over 18, total males and females being 637. During the year many of these premises have been inspected and re-inspections made from time to time as occasion required. Only in one instance was it necessary to complain, this was on account of the want of proper water closet accommodation for each sex ; no case of overcrowding was detected, the general sanitary condition of the workshops was satisfactory, and the requirements of the Act were being generally observed.

There are also 21 bakehouses on the register within the district, all of which have been inspected by the Sani-

tary Inspector twice during the year, and otherwise as occasion required. The number of persons employed therein consists of 12 males between 14 and 16 years of age, 43 males over 16 years of age, 1 female between 14 and 16 years of age, and 2 females over 16 years of age. A Certificate of suitability has been granted by the Council respecting the only underground bakehouse in the district.

During the year 30 cases of outworkers have been reported, viz. : 19 in February and 11 in August. No complaint has arisen of any contravention of the provisions of the Act relating thereto.

J. MOUNTFORT JOHNSON, M.D.,
Medical Officer of Health.

SANITARY INSPECTOR'S REPORT.

ACTION TAKEN FOR THE ABATEMENT OF NUISANCES, ETC.

During the year ending December, 1905, the following cases of Nuisance and other matters complained of were dealt with, comprising :—

	CASES
Defective or want of private drainage	56
Passing liquid above 110° Fah. into sewer	0
Passing chemical refuse into sewer	0
Slop-stone drains admitting sewer gas into a house disconnected	31
Defective water closets	28
Offensive privies	54
Offensive ashpits...	64
Accumulation of offensive matter	4
Offensive privy cesspools filled up	83
Want of drain ventilation	26
Dilapidated buildings	5
Houses in a filthy condition	2
Nuisances arising from overcrowding	2
Defective water spouting	7
Want of proper water supply	1
Swine kept within 60 feet of dwelling house	0
Want of proper bedroom ventilation	88
Slaughter-house nuisance	2
Water course polluted by sewage	1
Workshop want lime washing...	1
Want of proper chimney to stove	1
Offensive pig-sty	0

	CASES
Dangerous disused wells to be filled up	5
Want of proper waste-pipe to lavatory	1
Drain head in bakehouse	1
Want of proper receptacle for stable manure	2
Poultry kept in dwelling house contrary to Bye-Laws	1
Samples of petroleum taken and tested	2
Escape of coal gas from gas mains	3
Want of w.c. accommodation in factories	4
Registered lodging house not kept clean	1
Want of proper urinal on licensed premises	5
Offensive swill tubs	2
Nuisance from fish frying	0
Nuisance from offal boiling	0
Want of proper paving in private yards attached to dwelling houses	68
Want of proper privy or water closet accommodation	89
Want of proper movable receptacles for ashes	149
Nuisance arising from dense black smoke	4
Number of houses disinfected	147
Number of schools disinfected	4
Number of infected articles, bedding, etc., disinfected	2844
Number of houses unfit for human habitation closed	5
Number of closed houses made fit for habitation ...	0

A considerable number of nuisances were promptly abated on their being intimated to the persons responsible.

There are several unexpired notices of nuisances remaining on the books not yet complied with.

Unsound Food.

One barrel of codfish, and one cwt. bag of mussells were destroyed by the owners on their being intimated that the same were unfit for food.

Offensive Privies and Cesspools.

	CASES
Offensive privies demolished or converted into water closets	83
Offensive ashpits abolished, and portable receptacles provided in lieu thereof	78

Removal of Ashes and Nightsoil.

The Scavenging Department removed 5047 loads of house ashes and garbage, compared with 5062 during the preceding year, and 291 loads of nightsoil, compared with 247 the preceding year. The increase in the number of loads of night-soil removed is due to the more frequent removal of same to facilitate the conversion of the privies into wash-down water closets. All accumulations of house refuse contain more or less infectious matter dangerous to health, and ought to be destroyed. The frequent removal of refuse from premises demands as much care as the acquisition of food and other things necessary to sustain life; and however costly it may prove, its removal and destruction is a necessary part of the economy of every family and of every community.

Common Lodging-Houses.

There are 4 houses registered under the Common Lodging-houses Acts, for the reception of 111 casual lodgers. The regulations approved by the Local Government Board for their management are being satisfactorily observed. The keeper of one of the houses has been cautioned as to the cleanliness of his house, which has had the desired effect.

Slaughter-Houses.

There are 6 licensed Slaughter-houses within the Town, subject to the Bye-Laws approved by the Local Government Board.

Workshops.

There are 161 Workshops on the Register, all of which have been inspected from time to time as occasion required, and with one exception I have not had to complain of any contravention of the provisions of the Act. The number of persons employed in December were as follows :—

Sex.	AGES.			Total.
	12 and under 14.	14 and under 18.	18 and upwards.	
Males	4	48	351	403
Females	7	58	168	233
Persons	11	106	519	636

Bakehouses.

There are 21 Bakehouses within the district, all of which were inspected half-yearly, and at other times as occasion required. The number of persons employed being 12 males between 14 and 16 years of age, 43 over 16 years of age, 1 female between 14 and 16 years of age, and 2 over 16 years.

Petroleum Stores.

There are two licenses in force for the keeping and sale of Petroleum that flash under 73 degrees

Fahrenheit's thermometer; and one for the keeping and sale of Calcium Carbide.

Gas Supply.

The purity of the Gas supplied to the Town was tested from time to time in the manner required by the 34th and 35th Vic., chap. 41. No impurity arising from the presence of sulphuretted hydrogen (which is deemed a nuisance injurious to health) was shown by the tests made at the Town Hall during the year.

Notification of Infectious Disease.

During the year ended 1905, 214 cases of Infectious Diseases, consisting of 67 cases of scarlet fever, 121 of diphtheria, 5 of enteric fever, 17 of erysipelas, and 4 of measles, were notified during the year, and the necessary steps taken to prevent the spread of the disease. 157 of these cases were removed to the Leek Isolation Hospital, and the remainder treated at their own homes. Notwithstanding the efforts of the department it has been found exceedingly difficult in many cases to secure satisfactory isolation of cases of infectious disease at home. Thoughtless persons attending upon the patient mixing with others without taking proper precautions, and receiving visitors into the infected house, have been the means of spreading the infection to a large extent. In other instances, especially diphtheria and scarlet fever, cases have been of so mild a character that it was not thought necessary to call in the doctor, and the case has gone unrecognised, the children being allowed to mix with others and spread the infection. The source of milk supply is recorded in

every case of infectious disease notified, and we have no evidence of any mischief resulting from its distribution.

Isolation Hospital.

Year ending December, 1905.

Number of patients in Hospital, Jan. 1st, 1905	...	10
Do. do. admitted during the year	...	157
Do. do. discharged do.	...	145
Do. do. died do.	..	7
Do. do. in Hospital, Dec. 31st, 1905	...	15

The average duration in Hospital of each patient discharged or died was 35·8 days.

Interments within the Town.

During the year ending December, 1905, 3 interments took place in the Burial Ground attached to St. Edward's Church, and 4 in the ground attached to Mount Pleasant Wesleyan Chapel. The provisions of the Orders in Council relating thereto were duly observed.

Table I.—Abstract of the Census Returns of 1851, 1861, 1871, 1881, 1891, and 1901, within the Limits of the Leek Improvement Act.

Census Year.	Average Statute Acres.	HOUSES.			PERSONS.			Average number of Persons per house.
		Inhabited	Uninhabited	Building	Males	Females	TOTAL	
1851	1460	1701	39	22	4315	4781	9066	5·06
1861	1460	2228	101	27	4686	5488	10174	4·56
1871	1460	2386	88	2	5087	6244	11331	4·74
1881	1460	2726	136	18	5874	6991	12865	4·71
1891	1460	3022	169	24	6420	7708	14128	4·67
1901	1460	3380	156	78	6917	8567	15484	4·58

Table 2.—Population, Births and Deaths.

Table showing the mean Population, the number of Births and Deaths, and the average annual number of Births and Deaths to 1,000 persons living, and the mean Age at Death of males, females, and persons within the limits of the Leek Improvement Act, during various periods of the 55 years ending 1905.—(W. H. H.)

Periods.	Mean Population.	Total number of		Average Annual Number of Births and Deaths to 1000 living.		Mean Age at Death.		
		Births	Deaths	Births	Deaths	Males	Females	Persons.
						Years.	*Years.*	*Years.*
10 years 1851-60	9635	3440	2819	35·7	29·3	23·5	25·9	24·8
10 years 1861-70	10752	3516	2540	32·7	23·6	29·1	34·7	32·0
10 years 1871-80	12098	4167	2734	34·4	22·6	30·8	32·3	31·5
10 years 1881-90	13496	4146	2668	30·1	19·8	32·7	35·9	34·3
10 years 1891-00	14803	4177	2832	28·2	19·1	36·1	38·4	37·2
Year 1901	15509	406	294	26·1	18·9	34·9	42·6	38·8
Year 1902	15663	422	298	26·9	19·0	32·9	38·3	35·4
Year 1903	15726	420	279	26·6	17·6	36·2	43·2	39·8
Year 1904	15921	422	303	26·5	18·9	38·4	36·3	37·5
Year 1905	16150	425	248	26·3	15·3*	37·7	42·7	40·0

* Adding 1 person who died in a public institution outside the district, and deducting 16 deaths of persons belonging to other districts who died in public institutions in Leek, the actual death rate to 1,000 living is 14·4 instead of 15·3.

Excluding the 16 Deaths in Public Institutions in the Town of Persons brought there from other Districts, and including one death in a Public Institution outside the District of a person who was a resident of Leek, the corrected annual rate of mortality in the Urban District of Leek for the year ending December, 1905, is 14·4 to 1,000 living.

It will be seen by the foregoing No. 2 Abstract Table that during the last 45 years, the rate of mortality compared with that of the ten years 1851-60 has been reduced 30 per cent., which is equivalent to a reduction of 30 per cent. in the rate of sickness; and the duration of life has increased 30 per cent. Gradually the fact is being more fully recognised that in proportion as health is protected, and the duration of life is enhanced, the wealth of the community is increased.

Table 3.—Infant Mortality.

Table shewing the number of Births; the number of Deaths under one year; and the rate of mortality to 1,000 births, within the limits of the Leek Improvement Act, during various periods of the 55 years ending 1905.

Period.	Number of		Rate of Mortality to 1000 Births.
	Births.	Deaths under 1 year.	
10 years 1851-60	3400	646	187·8
10 years 1861-70	3517	573	162·9
10 years 1871-80	4167	670	160·7
10 years 1881-90	4146	585	141·1
10 years 1891-00	4177	620	141·4
Year 1901 ...	406	68	167·4
Year 1902 ...	422	70	165·8
Year 1903 ...	420	56	133·4
Year 1904 ...	422	71	168·2
Year 1905 ...	425	51	120·0

The deaths of infants under the age of one year is usually the blackest spot in the vital statistics of the town, but the past year has proved an exception to the rule, largely owing to work for women having been rather scarce.

There is no doubt but that the objectionable system of the employment of mothers of infants from their homes is, to a large extent, responsible for the loss of infant life. Experience shows that infant mortality tends to rise when the staple trade is good, and falls when it is bad.

Table 4.

Percentage of Illegitimate Births in Leek during each of the under-mentioned periods, of the 55 years ending 1905.

Period of Years.	Percentage of Illegitimate Births.
10 years 1851-60	9·7
10 years 1861-70	8·8
10 years 1871-80	8·5
10 years 1881-90	6·8
10 years 1891-00	5·6
Year 1901	5·6
Year 1902	7·5
Year 1903	6·6
Year 1904	6·6
Year 1905	8·2

Housing of the Working Classes Act.

During the year 1905 it has not been necessary to resort to the provisions of this Act for closing orders. Five houses unfit for habitation were closed.

Canal Boats Acts, 1877 and 1884.

During the year ended December 1905, 8 Canal Boats were inspected within the Urban Sanitary District of Leek. The condition of the boats and their occupants as regards the several matters dealt with in the Acts and Regulations was satisfactory.

Dairies, Cow-Sheds, and Milk-Shops Order, 1885.

There are 43 persons registered under the above order. 12 are Milk-shops, and the remainder Dairies and Cow-sheds. There are 184 milch cows kept. All the said premises were inspected twice during the year, and suggestions made in several cases, with a view to improve the drainage and ventilation of the buildings used as cow-sheds.

The systematic house to house inspection of property situate within the district has been continued during the year, the total number of premises inspected up to the 31st of December being 1,326.

During the past year as the result of the inspection 83 offensive and dilapidated privies have been abolished and proper and sufficient separate water closet accommodation provided in lieu thereof. 78 offensive uncovered ashpits have been demolished, and proper movable covered galvanised iron receptacles provided in their place. 88 bedrooms have been provided with better ventilation by causing one half of the window to be made to open. Five houses have been closed being unfit for human habitation. A large number of old drains have been

taken out and replaced by good sound earthenware socket pipes, many back yards have been repaved, and the general condition of the environments of the property has been marked by a very perceptible improvement.

FRANK GREEN,

Sanitary Inspector.